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ABSTRACT

The nature of education as a social process in workplace settings outside of schools was explored over 3 years at 35 intern settings for an alternative high school program in a large city. The experiences of students at the 35 sites were compared to identify essential features of work tasks and the social means to accomplish these tasks. Two categories of task features were examined: logical-technical and pragmatic. Tasks not only accomplish part of the organization's mission but also serve social functions. Pragmatic features include: someone else's work may be affected by completion of a work task, and certain qualifications/attitudes are needed to perform job duties. The social means used to do work may be described by the following three segments or phases: establishing, accomplishing, and processing. It was found that workers in various situations used very different means for doing tasks in these phases, and that the means chosen were linked to the forms of knowledge the intern encountered. In addition to examining the historical dimensions of the student's experience in the placement site, attention was directed to understanding how the experience was integrated at progressively higher levels. (SW)

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IDENTIFYING LEARNING IN INTERNSHIP SETTINGS

by David Thornton Moore, Ed.D.

NSIEE Occasional Paper #5
Michael Whitesage, 1982-83 Series Editor

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PREFACE

My professional identity in experiential education strikes me as a constant tug-of-war between two roles that are supposed to be complementary but which no one, so far as I know, has been able to reconcile: researcher and practitioner. As someone who has placed and supervised interns at the high school, college, and graduate school levels and who recently became director of a university cooperative education program, I find that part of me resonates to the practical concerns of the educator in external learning enterprises. Another part of me, however, nurtured by almost five years as a college professor and researcher, is intrigued by an array of rather abstract questions about the nature of experiential education as a social process. My integrated and optimistic self argues that these two perceptions can and should be working together, that my interest in research should inform my practice and vice versa. My contentious and skeptical self, on the other hand, observes that these two parts have found neither a common language nor a receptive audience.

I preface this paper with these personal remarks to prepare the reader, whether scholar or practitioner, for some degree of frustration in reading what follows. The scholar-researcher will find the ideas outlined here rudimentary, but I believe that is because the problems they address have not been examined in depth before, at least in the light of empirical data. We are still at an early stage in this inquiry. The educator-practitioner will find no clear prescriptions for policy or design, no steps toward more effective implementation, not even any evaluation instruments. The practical uses of the analytic framework reported here remain to be systematically developed. At this point, I present these ideas primarily as a device for helping both researchers and educators to think rigorously and creatively about a set of important problems.

David Thornton Moore

Students at Work:

Identifying Learning in Internship Settings

In its simplest form, the question I propose to address in this paper is this: How can we best understand the nature of education as a social process in workplace settings outside of schools? What goes on at the worksite when the learner/intern is there, and how might we talk reasonably and productively about that phenomenon in educational terms? As the intern interacts with people, things and information, what is it about that experience that constitutes education? Put in conventional school terms, how can we identify and analyze the pedagogy and curriculum of an internship apart from the intervention of the school or educator? How does education happen "naturally" in workplaces?

As researchers and as practitioners we need to be able to comprehend the way any work environment defines, distributes and uses knowledge in the course of accomplishing its purposes. Before we can start tinkering with internship sites, before we can design sensible parallel seminars, before we can assess the educational efficacy of our programs, we need to understand the social organization of learning as a naturally-occurring process. Then we can make rational decisions about how to guide, monitor and evaluate the internship experience in each specific instance. Our educational strategies will necessarily vary according to the details of the interactions between particular students in particular sites. The ideas reported here provide a way of identifying and analyzing those details.

The conceptual framework described in this paper emerged gradually over a period of three years during which a team of researchers studied thirty-five settings used by interns from an alternative high school program in a large city, the School for External Learning (SEL). We spent many hundreds of hours at the sites, watching and listening as students interacted with people, engaged in work activities, and goofed around. We took extensive field notes on what we witnessed, and also interviewed the students and their supervisors several times each. In weekly team meetings during each project year, we debated interpretations and analyses of our data in order to construct a theoretical approach to the study of education in non-school settings. Unfortunately, there is not enough space here to review the rich detail of our observations, to tell the stories, to portray the students and events we came to know - the brilliant but troubled young man who managed to organize a city councilmember's office, the aspiring student writer who struggled to find chal-

lenging work at a curriculum development firm, the New Waver who actually opened her eyes to some political issues by working with a group of '60s-type radicals in a community video center. But the framework is designed to be sensitive to the lived details of just such experiences as these--not to predict success on the basis of specified variables, not to prescribe procedures and mechanisms for developing and assessing placements, but rather to think carefully and systematically about what goes on in the course of interns' daily lives at their placement sites.

To understand how education happens as a naturally-occurring social process in workplaces, we suggest thinking of the work organization--the business, museum, theater, community group--as a "microculture." Certain scholars called cognitive anthropologists (e.g., Goodenough, 1964) define "culture" as the knowledge one needs in order to participate competently in the life of some group, as the facts, skills, values, self-images, world-views, explanatory schemes and assumptions that people use in enacting their lives together. These researchers try to identify and analyze the cultural knowledge underlying a people's customs, beliefs, practices and relations. Similar ideas about the central importance of knowledge form the basis of other approaches to social inquiry: the social psychology of George Herbert Mead (1934), the symbolic interactionism of Herbert Blumer (1969), the sociology of knowledge described by Berger and Luckmann (1966), and Garfinkel's ethnomethodology (1967). Despite differences in terminology, emphasis, and the definition of problems, these scholars all agree basically on an image of social order as constructed by people interacting with each other in an ongoing process of interpretation and action. In any face-to-face situation, participants use their knowledge about the context to read each other's behavior and to perform actions that make sense in that particular scene (Bremme and Erickson, 1977). Some of that knowledge takes on the character of "objective reality," as if it existed independent of the actors and exerted an external influence on them, but in fact it is only to the extent that people use that knowledge and act it out, that it has any meaning in the social world (Berger and Luckmann, 1966).

Back to a work organization. According to these conceptions of social life, we can see that the series of activities, the groups of people, and the collections of things that constitute that organization are held together by members' use of various forms of knowledge in particular ways in particular scenes. That knowledge may be "about" any number of things: such technical

facts as the proper dimensions of a doorway; such skills as drawing scale plans for a house; such social relations as interacting with a client or with colleagues. It may be "about" ways to present oneself in such a manner as to appear responsible and professional, or efficient and effective in the uses of time and space for organizing productive activities. Whatever that knowledge is "about," the essential point is that it is defined, distributed and used in certain more or less patterned ways as a basis for participants' doing what goes by the term "working at the architectural firm." In producing their lives together in the organization, people formulate that knowledge, orient their actions toward it, display it, and hold each other accountable for competent performance of it. They organize themselves with it (McDermott et al., 1978). In fact, it is the use of that situation-specific knowledge that constitutes the organization; that is why Mehan (1979) calls the study of that knowledge-in-use "constitutive ethnography."

Now enter the neophyte: the intern, apprentice, student or, for that matter, new worker. Through a series of interactions with various people, through engaging in different activities called work or socializing or "messing around," the newcomer encounters and somehow engages portions of the social stock of knowledge underlying the organization. The nature of that knowledge-encounter varies with the situation. In one case, the student might observe the senior partner negotiating the terms of a deal with a client, or watch a veteran reporter interview a news subject. In another, the intern might help out a tour guide in a museum by working on a drawing with a couple of kids. Still another time, an apprentice might collaborate with a cabinetmaker on the construction of a bureau, or feed a legislator relevant data at a hearing. Sometimes the basic operation of the organization falls on the shoulders of the intern, as in a color xerography shop where the owner has taken some time off. Each of these situations involves the intern's engaging different forms of knowledge in different ways, with different intensities, for different purposes. The extent to which competent display of the knowledge is demanded of the newcomer may vary, as may the degree to which the intern can fall back on the support of others. The point is that the person is coming in contact with new kinds of knowledge--facts, skills, values, relations, procedures, principles--and that the way that process occurs depends on the social organization of the overall situation.

Our conception of the terms "pedogogy" and "curriculum," at least as they pertain to experience in the workplace, grew out of these images of the defi-

nition, distribution and use of knowledge. There is insufficient space here to spell this argument out fully (see Moore, 1981a, 1981b, 1982), but we essentially came to regard pedagogy and curriculum as obverse sides of the same coin, and we called the coin "education." That coin represents the social organization of the process by which a newcomer in a particular context gains access to the acquisition, mastery and display of various aspects of the stock of knowledge in the situation. By using the term pedagogy, we mean to focus attention on the social organization process: the choices participants make about the use and distribution of various human, informational and material resources; and the demands they make of each other and the assistance they share. By using the term curriculum, we mean to draw attention to the knowledge in use in the situation--the facts, skills, values, relations, and principles that people use to organize their actions together. By this definition, curriculum refers not to some disembodied collection of knowledge, nor to plans by which supposed learners will be exposed to new concepts but rather to the social process by which knowledge is in fact used in the course of accomplishing interaction. For our purposes, then, the central educational question in the examination of an internship experience is this: How is the newcomer integrated into (or, conversely, kept out of) interactions in which various aspects of the social stock of knowledge in the organization are displayed and used?

Our approach to this question starts small and works upward toward more comprehensive analyses. Since the centerpiece of the placement site, at least for official purposes, is "doing the work," we focus first on "tasks": segments of activity that manage to accomplish some portion of the organization's mission. The intern's participation in a "task episode" represents one obvious place to start in the investigation of education in the workplace. By comparing the experiences of students in thirty-five different sites, we gradually developed a set of terms for that analysis.

Two very basic questions may be asked of any task episode: What are the essential features of the tasks themselves? What social means do people use to get the tasks done? Taken together, these questions reveal a good deal about the social orgarization of knowledge-use in the work setting. Moreover, they illuminate the strategies and choices members use in distributing and displaying segments of the "working curriculum."

Features of tasks. For analytic purposes, we find it useful to look at two categories of task features: logical-technical and pragmatic. Although

the clarity with which any given task is defined may vary widely, we can agree that in ideal terms getting a particular task done places certain demands on a person. In order to do the job, one must utilize human, informational and material resources. The following questions highlight some of the characteristics of those resources:

1. What physical or psychomotor skills does the task require (e.g., hitting a nail with a hammer, climbing a ladder, typing a letter)?

2. What kinds of cognitive skills must the intern display to accomplish the task (e.g., memory, syllogistic reasoning, problem-solving)?

3. What relational or affective skills does the task demand (e.g., looking professional, being patient, acting "responsibly")?

4. How much space and time are required for the adequate performance of the task? How are they arranged (paced, sequenced, divided)?

5. What material objects, data and people are utilized in the performance of the task?

In this abbreviated form, these questions sound very broad. We found, however, that applying them to specific incidents witnessed in work sites forced us to attend to aspects of the interactions that we had not noticed before. The analysis becomes complicated, of course, by the fact that one cannot always easily identify the "ideal" features of a task. But that issue falls under the category of pragmatics, discussed below, and under the question of social means. Moreover, using this set of questions--and all those following--demands that the analyst use judgment, insight and interpretive skill in deciding which features of tasks are worth attention. The scheme is not meant to be followed in a lockstep, mechanical way, but rather to guide systematic inquiry.

Tasks not only accomplish segments of the organization's mission, but they also have meanings within and connections to the social situations within which they occur. They serve social, not just technical-productive, functions. Moreover, a specific task bears a particular relation to other tasks and operations in the organization. We refer to these features of tasks as pragmatics, and pose questions such as these about them:

1. How central or essential is the task in the operation of the organization? (Central functions are at the core of the work; essential functions may be outside the core but the operation cannot proceed without them.)

2. How does this task articulate functionally with others, whether performed by the student intern or by other workers? For instance, does someone else's work depend on the successful prior completion of this job?

3. How does the performance of the task affect the organization's relations with its external environment (its market, competitors, funding sources, etc.)?

4. What is presumed about the readiness (stage of development, attitude, ability) of the person performing the task? Does a person have to attain a particular position before being permitted to undertake the job?

5. What status or prestige is conferred on a person by virtue of having completed the task successfully?

6. Does performing the task qualify a person technically or socially for other (more complex, more prestigious) tasks?

The first three pragmatic features mentioned here relate to the meaning of the task to the organization: where it fits, how it functions. One aspect of this issue is what Lave (1980) calls "error cost": the consequences suffered by the organization when the task is performed inadequately. In her example from a study of apprentice tailors in Liberia, the master tailor worries more about a mistake in cutting fabric than in sewing, since a sewing error can be rectified fairly easily. Another aspect, fitting under the "relations with external environment" question, is what we called "visibility": the extent to which the intern's performance of the task is visible to the organization's public or clientele.

The other three pragmatic features concern the meaning of the performance of the task to the intern, particularly the impact that performance has on the student's social position in the organization. We decided to examine pragmatics on both the organizational and individual levels because they appear to affect the choices of social means people make in specific situations easily as much as do the logical-technical features of tasks. That is, the way an intern is integrated into the performance of a particular task has as much to do with the pragmatic functions of that task as with the logical and technical demands it places on the worker. Moreover, those pragmatic features represent a different form of knowledge from that embedded in the logical-technical features. From an educational perspective, both are crucial, and get us away from the false dichotomies implied by such notions as "hidden curriculum." In experiential education, the pragmatic learning is clearly as legitimate and integral to the process as is the acquisition of "facts" and "skills." Thus, going through the procedure of analyzing specific tasks according to these sets of questions about their features moves us a long way toward understanding the educational nature of the student's experience.

Features of social means. The second component of task analysis focuses on the social means by which people manage to get the task done. By social means, we refer to choices people make together about the distribution of roles, to implicit or explicit understandings about actions in particular contexts, to forms of communicative behavior through which people organize their activities in time and space. These means do not occur at random, but rather have reason and sense in relation to the tasks being performed and to the wider situation. As I will argue later, however, the choices of social means for doing work appear in our data to stem more from the dynamics of the organization than to any implicit pedagogy or to a rational understanding of the needs of the learner.

By comparing hundreds of task episodes in many different sites, we came to realize that the social means members use to do the work may be described as falling into three segments or phases: (1) establishing, (2) accomplishing, and (3) processing. We discovered that people in various situations use very different means for doing those phases. We also discovered that the particular means chosen in any given task episode bear powerfully on the forms of knowledge the intern gets to encounter and engage.

ESTABLISHING refers to the process by which the student encounters the task, gets information from the environment about its definition and meaning, discovers what one must do to perform it, and learns something about the criteria by which the performance will be judged. In advance of undertaking a specific piece of work, that is, the student needs certain kinds of information, and "establishing" refers to the social means by which participants organize that information and make it accessible to (or keep it from) the intern. The information in each category may be full or sketchy; it may come in a variety of forms through a range of channels. We came to ask these questions of the establishing process:

1. Who initiates the task as something the intern will do (e.g., a supervisor, the student herself, a client)?

2. How is information about the task communicated to the intern (e.g., printed materials, verbal instructions, accessible objects, gestures)?

3. How are various roles defined and distributed in relation to starting the task episode?

4. To what extent is information provided about (a) the nature of the task, (b) the skills and knowledge necessary for doing it, and (c) the standards by which performance will be judged?

5. To what extent can the student negotiate the terms of the task, to effect changes in the nature of demands or expectations? How is that negotiation carried out?

6. How much discretion is left to the student, before the fact, in the choice of means for accomplishing the task? Are demands stated clearly? Inflexibly?

7. How is the intern placed in a position of responsibility in relation to the task? That is, how do participants manage in advance to define the student as being responsible for the performance of the work?

Thus, there are both procedural and substantive questions about establishing: Who does what, and how, in order to get some degree of information through to the student before she takes on the job?

ACCOMPLISHING refers to the process by which the student uses information, objects and interactions with other people to get the task done. This process may vary along a number of dimensions represented by the following questions:

1. To what extent does the student follow procedures mandated by the supervisor or some other institutional agent or, conversely, create new solutions in the performance of the task?

2. How many and what other people are made available for support, assistance or guidance?

3. How many and what kinds of materials and information are made available to the student during the performance of the task?

4. What does the intern have to do to get access to these resources? That is, how are they made available or, conversely, kept away?

5. How are roles defined, distributed and enacted in the process of doing the work? How do these roles articulate with each other?

At this stage, then, we are concerned with the ways people mobilize the human, informational and material (including spatial and temporal) resources necessary for doing the job. For the purposes of understanding the intern's experience, we examine the social organization of the activity called doing the task: the uses of objects and language and gestures and knowledge. For the purposes of understanding the work setting as a learning environment generally, we look at the construction and distribution and enactment of social knowledge as it involves all the participants across a number of activities. That is, analysis of the individual's educational experience requires that we try to comprehend widening circles of interlocking phenomena.

PROCESSING refers to the complex set of activities through which the student gets information from the environment that (a) helps her read others'

judgments of her performance as well as form a judgment herself, and (b) gives her an opportunity and the means to reconstrue the terms of the problem and the strategies for solution. That may include monitoring, feedback, evaluation and reflection. A number of experiential educators follow Dewey (1910) in stressing the importance of reflection in the learning process, and they often maintain that a central function of their programs is to engage students in that rethinking enterprise (e.g., Dollar, 1982). The implication seems to be that reflection rarely occurs as a natural component of work experience, that it has to be added on by educators. Our observations suggest that opportunities for reflection actually turn up in the real world more often than one might expect--although clearly not often enough to satisfy us as educators. Both feedback and reflection may be regarded to some extent as corrective processes. By virtue of this sort of information, the intern may improve her performance on the task the next time around (should there be a next time). So reflection serves the interests of the organization as well as the educational needs of the student--so long as it doesn't (a) take too much time and resources, or (b) disrupt the conventional flow of work activity unduly. Locating and understanding naturally-occurring opportunities for reflection strike us as important goals for experiential educators, since they might streamline and enhance the educational potential of our programs.

We pose the following questions about the processing phase:

1. Who provides the processing: the supervisor, the student, the client, the material product of the work?

2. What form does the processing take: verbal comments, written evaluations, material conditions?

3. How is the feedback used for formative purposes, that is, to improve further performance of the task? How is it used for summative purposes, that is, to render an end-point evaluation of the intern?

4. To what extent and how is the student held responsible for the various elements of the task performance after the fact? What are the pragmatic consequences of that accountability?

5. To what extent does processing occur simultaneously with the performance of the task, and to what extent is it separated in time and space from accomplishing?

These three forms of social means should not be regarded as phases in the sense of following one another in time in some invariant way. Instead, they are functions that are acted out in various ways at various points in the course of a task episode. Each of them may be done more or less fully. An intern may

receive extensive instruction and practice opportunities before undertaking an actual task, or may simply be told "go do this." The student may follow through completely, even overenergetically, on the accomplishment of some job, or may manage to shortcut it or bail out altogether. Feedback may be immediate and forceful, or virtually non-existent; the same is true of reflection. We observed an enormous variety of combinations of social means across task episodes both within and across sites. The central point here is that asking these questions about the features of tasks and the features of social means provides a useful framework for examining interns' experiences in eductional terms, for investigating the ways they get integrated into the flow of work activity and the distribution of knowledge. In a sense, the questions reveal the natural pedagogy and curriculum of the workplace--the social organization of the human, informational and material resources through which the neophyte builds competence in some aspect of the work.

We need to reiterate a point made briefly before about this natural educational process. The choices people make for inducting a student intern into some productive role in an organization stem far more often from the internal demands of the organization itself than from some kind of rational understanding of the learning process. In order to explain the particular educational experience of a student in a particular work site, therefore, we have to look carefully at the environment in its own terms: the structuring of roles and activities; the underlying ethos and ideology guiding actions; and the relations between the organization and its broader context (market forces, for example). Although it seems an obvious point in some ways, we must remember that the work organization exists to produce a good or provide a service, not to educate interns, and the functional requirements of that mission constrain the choices members can make in relation to the learner. That does <u>not</u> mean that the work process cannot be educational in its own right, but simply that the form that education takes will not always look like one invented by a curriculum specialist. Our argument is that, as experiential educators, we need to understand that natural learning process before we design interventions.

The task analysis framework described so far focuses on single task episodes and tries to identify their educational properties. We realized that a more comprehensive picture of the student's experience in the workplace was necessary, and so extended the framework both longitudinally and vertically. Rather than treat the individual tasks as discrete items, we decided to trace the student's "career" in the placement over time, to look for development in

the student's task-related work. Over time, we observed, the student may (or may not) undergo changes in (a) the types of tasks he or she encounters, and (b) the social means by which those tasks are established, accomplished and processed. Tasks might change along any of the dimensions mentioned earlier. For example, the student may be asked to do things that demand more complex cognitive skills, or that are more integral to the organization's mission. Changes in social means might involve a decrease in pre-task instruction, an increase in the autonomy of the student during the performance, or less frequent supervision. Some students in our sample took on progressively more difficult and important work over the course of the placement, while the "trajectory" of other students' careers was flat; they did the same jobs over and over. Some experienced what we called "flashes": occasional bursts of interesting and challenging work in the midst of essentially menial labor.

In additional to examining the historical dimensions of the student's experience in the placement site, we began to try to understand how that experience is integrated at progressively higher levels. Workplace education entails much more than a series of task episodes, no matter how complexly analyzed. Focusing on tasks alone runs the risk of overlooking some of the broader features of that education. We outlined increasingly comprehensive terms for the analysis of the student's learning:

1. task item: a single "piece" of work, an action accomplishing some discrete segment of the mission of the organization; for instance, assembling a cabinet drawer;

2. task set: a connected series of task items that together constitute a coherent segment of the mission of the organization; for instance, building a chest of drawers;

3. role: a set of rights and obligations and performance expectations appertaining to a status position in which the student is placed in relation to other members of the organization; for instance, apprentice cabinetmaker;

4. environment/setting: that broad combination of roles and statuses, relations, activities and events, values, belief systems and ideologies that constitutes the social system within which the student works; for instance, a custom furniture shop.

Higher levels of organization here contain the lower ones, although the lines between them are never entirely clear ("assembling a drawer," for example, itself comprises sub-tasks such as aligning pieces and gluing). We maintain that one can profitably analyze the student's broad experience by applying questions

formally similar to those outlined earlier in relation to task items to each of these successive levels of organization. That is, we can examine the logical-technical and pragmatic features of tasks, task sets, roles and environments; and we can search for the social means by which those four are established, accomplished and processed. For instance, one might ask how the student gets information about the environment as a whole. Do members make consistent and repeated comments about "the kind of place this is," or does that picture accrue gradually through a series of implicit messages never overtly expressed? What sorts of skills are generally demanded in the performance of a role like newspaper reporter or tour guide, and how is information about those skills embedded in everyday interactions? To some extent, knowledge about roles and environments is transmitted through task-work. In some other ways, however, the intern may get this kind of information through off-task interactions: conversations over lunch, casual observation of others' activities, reading of wall posters and annual reports. These experiences are educationally valid as well, to the extent that they give the student access to relevant knowledge about the complex environment in which she finds herself.

This process of information transmission may be more or less coherent, more or less explicit, more or less accountable. We discovered that the degree to which students managed to put together comprehensive mental maps of their placement organizations varied enormously--and not always directly as a function of the complexity of the organization itself. A student in a curriculum firm, for instance, was assigned to a series of disconnected tasks (proofreading texts, gathering bibliographic materials, checking "readability" levels) as part of the firm's work on a Life Skills Curriculum. Since he was doing essentially odds and ends, he never got the "big picture": he neither understood the overall purpose of the work, nor sensed any meaning or coherence to his own role in it. A student who worked as a reporter for a community newspaper, on the other hand, did all the things that reporters do: conceived story ideas, prepared strategies for following through, went out to do interviews, wrote drafts of stories and reviewed them with the editor. She emerged from the experience with a strong sense of the role and the environment, as well as of the skills involved in particular tasks. In fact, she told us that she was moving toward a career in journalism as a result of the internship.

One abbreviated illustration of the use of our approach to analyzing internships is appropriate to this discussion. The point is to show how asking some of the questions mentioned above helps us to comprehend the educational features of a particular situation.

A yound woman named Jane worked as an intern in the education department of a local history museum, where one primary activity was conducting tours for visiting elementary school classes. The social stock of knowledge constituting this organization comprised a huge range: facts about the city's historical events and people; skills in public speaking; the ability to manage interactions with large groups of small children, including maintaining discipline, focusing attention, answering questions; a sense of professionalism and seriousness about the museum's collections and the department's work; and so on. The veteran tour guides displayed all this knowledge in their encounters with school children and teachers; they also did classic "backstage" work, to use Goffman's (1959) term, in the office before and after tours.

What is interesting for our purposes, however, is the way Jane was gradually inducted into that social stock of knowledge. The trajectory of her career as a tour guide moved steadily upward toward greater displays of competence. Early in her internship, she basically observed. She followed the veteran guides around and listened to their spiels. After a few days, she began doing peripheral support work--helping individual children with their drawing, for instance. Pragmatically, the job was peripheral in the sense that the tour guide could have done without Jane's help, but it did contribute to the quality of the child's experience. Jane established and accomplished the task herself, with no apparent direction from the guide; she got feedback from the child immediately and from her supervisor after the tour was completed. Also consider some of the logical-technical demands of that task: the relational skill of interacting effectively with a child, some conceptual grasp of the purpose of the exercise, a modicum of artistic ability. Then over a period of a few weeks, she was injected into more and more components of the role, and was called on to display more and more complex knowledge. One day, for instance, the main guide was doing her standard speech in the auditorium before taking the class through the exhibit halls. Midway into the talk, she said, "Now Jane is going to show you some things in this cart." Jane went to the front of the hall and spent perhaps fifteen minutes talking with the kids about household items from the "artifacts cart." Then the regular guide came back to the front and took over. As one specific, repeated event within the whole tour, "doing the artifacts cart" demanded several kinds of skill and knowledge: facts about the uses

and production of certain items, such as bedwarmers and candlesticks; public speaking, including asking and answering questions; maintaining a degree of order in a potentially unruly group; and making transitions from one segment of the talk to the next. Pragmatically, it was a central, if not essential, component of the tour. It happened repeatedly, though one could do without it. Moreover, only guides considered at least minimally proficient would be permitted to do the cart, so Jane was being told something about her growing status in the organization.

We cannot trace here the entire sequence of Jane's work in the museum. By the end of the placement term, however, she was not only doing the artifacts cart, but was also greeting the classes at the door, conducting them to the auditorium for the introductory talk, moving them from the auditorium into a series of exhibit halls, where she talked about such things as transportation and household crafts, leading the children in a drawing exercise, and seeing them off at the door. Not only that, she could improvise: respond to unexpected questions and vary the pace and direction of the gorup's travel to avoid running into other tours. So Jane's curriculum comprised a long series of interactions that gave her systematic and incremental access to a complex role called tour guide, and to the full range of knowledge-use constituting it. Her supervisors made available a variety of resources at appropriate and effective times: reading materials on the historical facts, supervisory conferences after each tour, and a sensibly graded series of tasks to handle with sufficient supervision. By the end of the semester, Jane was displaying a great deal of competence in the role, at virtually every conceivable level of performance.

The point of this paper is relatively simple--education in the workplace entails the definition and use of situation-relevant knowledge in ways that give the learner mastery of some segment of that knowledge. In its specifics, the approach is rather more complex. First, it suggests that we examine the logical-technical and pragmatic features of tasks and the social means by which those tasks are accomplished. Second, we need to trace the student's involvement in various task episodes across time to discover changes in types of tasks and social means. We need to look at the intern's encounters with knowledge not only about tasks but also about roles and the environment as a whole. And, third, we must use these dimensions of tasks, roles, and settings as a way to generate comparative studies across learning environments.

The practical implications of this form of research remain to be fully explored. These quasi-ethnographic studies of experiential education may in

the long run be far more useful to us as practitioners than are the traditional input-output survey/questionnaire approaches. Important and helpful as they may be this kind of research cannot capture the detailed texture of everyday life in supposed learning environments. That is not to say that educators have no role in designing and implementing interventions, that they should "trust in the process" and leave things alone. I would rather argue for a more sensitive understanding of the ways in which education happens naturally in an internship--an understanding on which we as educators can build an even more effective pedagogy and curriculum for experiential learning.

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